ABSTRACT

A pilot reference transmission scheme well suited for high data rate wireless communication systems. To maximize the amount of interference from transmissions from neighboring transmission sources (e.g., access points or base stations) during the pilot interval, and hence minimize the amount of interference from non-transmitting sources during the data intervals, the pilot references are transmitted in bursts at predetermined time intervals, and the pilot bursts from the access points are synchronized. This results in maximum interference contributions from non-transmitting neighboring access points, facilitating reliable estimation of worst case carrier-to-interference (C/I), and further allows the receiving devices (e.g., access terminals) to easily recognize the bursts as pilot reference. Each access point transmits the pilot bursts at or near its maximum transmit power level and no user-specific data is transmitted during the pilot bursts. As a result, the pilot bursts are received at the access terminals only in the presence of pilots from other access points and are not affected by other data transmissions. This results in a signal-to-noise ratio for the pilot reference that represents the minimum signal-to-noise ratio during the data transmission from the given access point, which aids in rapid and reliable estimation of worst case C/I.